Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

In this and in a previous paper,[6] PARKER holds that the freezing point depression for the moisture equivalent and probably also for the wilting coefficient is practically a constant for all soils. This may be taken as additional evidence that the moisture equivalent and wilting coefficient are within very considerable limits constants for all soils.—GEO. D. FULLER.

**Physicochemical problems relating to soil.**—Under this title[7] the Faraday Society has brought together in book form the papers presented before the Society during the general discussion of this topic at its meeting in London on May 31, 1921. The discussion is divided into five sections, and was planned to form a rather complete survey of the subject. The first section is general in nature, and consists of a survey of the whole field by RUSSELL, and a discussion of the physical properties of soils in relation to survey work by ROBINSON. The second section deals with the problems of soil moisture, with papers by KEEN, ODÉN, HOAGLAND, SHULL, and HACKETT. The third section considers the organic constituents of the soil, with papers by PAGE, ODÊN, and SALISBURY. The last two sections are concerned with colloidal properties, the adsorption phenomena of section four being discussed by FISCHER, CROWTHER, and MORRISON. The final section deals with the dispersity, flocculation, and plasticity of clays by ODÉN, COMBER, and MELLOR.

The discussion as a whole forms an important addition to soil literature, and one is impressed by the usefulness of such symposia as the Faraday Society has organized from time to time. The custom of holding such general discussions devoted to an entire survey of some field of investigation is one that might well be established among scientific societies in this country to replace the less valuable type of symposium now in vogue here.—C. A. SHULL.

**Photosynthesis control in forest plants.**—In investigating the conditions affecting photosynthesis in forest undergrowth, LUNDEGÅRDH,[8] using a new form of assimilation-chamber, found that with variations of carbon dioxide concentration and low light intensities both the light and the carbon dioxide supply are controlling factors. The advantages from a supply of carbon dioxide above normal appear most strongly in low intensities of light. For *Oxalis acetosella* at 0.025 of sunlight, and for *Viola tricolor* at 0.25, an approximately direct proportionality was obtained between the carbon dioxide concentration and the intensity of photosynthesis. In the forest, on account of the production of the $CO_2$ by the ground, the air (especially that nearest the ground) becomes rich, the $CO_2$ content often rising to more than twice normal. This increase, least over sandy soil and greatest over the humus of beech woods, is an important condition for the existence of shade flora. In such plants, in order that the daily products of photosynthesis may compensate the respiration of darkness, there is required at 18° C. an average illumination of little more than 0.01 light; and in order that growth may be maintained, in the case of *Oxalis*, a minimum daily illumination of 0.25 light for somewhat more than an hour. In sun plants an equilibrium between respiration and photosynthesis is reached at about 0.025 light.—GEO. D. FULLER.

---

[6] PARKER, F. W., Methods of studying the concentration and composition of the soil solution. Soil Science **12**:209–232. 1921.

[7] Physicochemical problems relating to the soil. Trans. Faraday Soc. **17**:217–368. 1922.

[8] LUNDEGARDH, HENDRIK, Ecological studies in the assimilation of certain forest plants and shore plants. Svensk. Bot. Tidsk. **15**:46–95. *figs. 9.* 1921.

**Prothallia from sex organs of Polypodium.**—STEIL[9] has reported that "in an old culture of *Polypodium irioides* the sterile cells of a large number of antheridia and archegonia became vegetative like ordinary prothallial cells." No case of regeneration from the sex organs of a pteridophyte has been reported previously. The cap cell and ring cells of the antheridia produced prothallial filaments and secondary antheridia; while the cells of neck and venter of the archegonia also produced filaments and antheridia, but in no case secondary archegonia. The antheridia produced in this way reached maturity, developing actively motile sperms. It was impossible to state under what cultural conditions the cells of the sex organs regenerated, but it is suggested that the peculiar behavior was the result of unfavorable conditions which appeared in the old culture.—J. M. C.

**Oxalophytes over limestone.**—Recent studies by SALISBURY and TANSLEY[10] have shown that *Quercus sessiliflora*, regarded as a decided oxalophyte, occurs in the regions under consideration over limestones. Analyses, however, prove that leaching has so reduced the lime content of the surface soils that they are often really acid in their reactions, and hence the oak seedlings and the accompanying calcifugous herbaceous vegetation really develop in a non-calcareous or even in an acid soil. This adds another to the rapidly accumulating array of facts indicating how dangerous it is to assume that calcareous rocks always give rise to calcareous soils.—GEO. D. FULLER.

**Stock-poisoning plants.**—LAWRENCE[11] has published an account of the principal stock-poisoning plants of Oregon for the use of "the Oregon farmer or stockman." The statement is made that "the annual toll of the poisonous plants in Oregon is surprisingly heavy." It is of interest to botanists to note that the principal poisonous plants of Oregon are *Delphinium* (6 spp.), *Zygadenus* (2 spp.), *Cicuta* (3 spp.), *Lupinus* (1 sp.), *Astragalus* (1 sp.), and *Pteridium* (1 sp.).—J. M. C.

---

[9] STEIL, W. N., The development of prothallia and antheridia from the sex organs of *Polypodium irioides*. Bull. Torr. Bot. Club **48**:271–277. *figs. 4.* 1921.

[10] SALISBURY, E. J., and TANSLEY, A. G., The Durmast oak-woods (*Querceta sessiliflorae*) of the Silurian and Malvernian strata near Malvern. Jour. Ecol. **9**:19–38. *pl. 1.* 1921.

[11] LAWRENCE, W. E., The principal stock-poisoning plants of Oregon. Oregon Agric. Coll. Exper. Sta. Bull. 187. pp. 42. *pls. 2. figs. 10.* 1922.